NOAA NWS Lake Levels

May 2021





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NOAA National Weather Service

Coastal Flood Alerts

- Lake Shore Flood Warning
 - Significant coastal flooding is occurring or is imminent
- Lake Shore Flood Watch
 - Minor coastal flooding is occurring or there is potential for a more significant event within a few days
- Lake Shore Flood Advisory (Western Lakes)
 - Minor coastal flooding is occurring or is imminent







Lakeshore Flood Warning



Lakeshore Flood Warning

Lakeshore Hazard Message National Weather Service Buffalo NY 431 AM EDT Mon Apr 13 2020

NYZ001-010-019-085-131700-/O.CON.KBUF.LS.W.0009.200413T1600Z-200414T1200Z/ Niagara-Northern Erie-Chautauqua-Southern Erie-431 AM EDT Mon Apr 13 2020

...LAKESHORE FLOOD WARNING REMAINS IN EFFECT FROM NOON TODAY TO 8 AM EDT TUESDAY...

- * WHAT...Significant lakeshore flooding expected.
- * WHERE...Niagara, Erie, and Chautauqua counties.
- * WHEN...From noon today to 8 AM EDT Tuesday.
- * IMPACTS...The rapid rise in water levels will result in lakeshore flooding along the Lake Erie and Upper Niagara River shores. Along the Lake Erie shore, flooding is expected along Route 5 in Hamburg, Buffalo Harbor and Canalside, Dunkirk Harbor, and other flood prone locations. Along the Upper Niagara River, flooding is likely to affect Grand Island and Cayuga Island. Very high wave action will also result in significant shoreline erosion.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Lakeshore Flood Warning means lakeshore flooding is occurring, is imminent, or is expected to occur. For your safety, stay off breakwaters, piers, rock outcroppings and beaches! Waves are often larger than they appear and can easily wash you away. Expect significant beach erosion and debris, local road closures and extremely dangerous boating conditions.

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Lakeshore Flood Recommendations

Lucas County - Toledo Gauge (as	ssuming Lake Erie Water level of 61				
Wind	Expected Level at Toledo	Color	Product Issued	Wording	Locations Impacted
N to E winds of 10 knots or less	70-74	Yellow	SPS if over 70 inches	Elevated water levels	Elevated water levels along the shoreline, inclubeaches, low lying areas and marinas.
N to E winds of 10 to 20 knots	74 to 80 inches	Orange	Warning	Flooding Expected	Flooding of marinas and other low lying areas Marsh.
E 20 to 30	80 to 90 inches	Orange/Red	Warning - flooding worse in Michigan w/east wind	Flooding Expected	Flooding of marinas and other low lying areas Marsh. High water possible along the Ottawa F
NE 20 to 34	80 to 92 inches	Red	Warning	Significant Flooding	Some flooding occurs in portions of NE Oregon Townships.
NE 35-45 knots	90 to 100 inches	Purple	Warning	Major Flooding Possible	Considerable flooding possible in portions of N Jerusalem Townships and along the Ottawa Ri
Record Value	96.4 inches on April 9, 1973				
Peak in 2019	90.4 inches on April 11, 2019				
Peak in 2018	91.3 inches on April 15, 2018				

Ottawa, Sandusky, and Erie Cour	nties OH (assuming Lake Erie Water	Level of 61-63 incl	nes above LWD)		
Wind	Expected Levels at Marblehead		Product Issued	Wording	Locations Impacted
N to NE winds of 12 knots or less	66 to 69 inches	Yellow	SPS	Elevated water levels	Elevated water levels along the shoreline, incl beaches, low lying areas and marinas.
NE 10 to 18 knots	68 to 72 inches	Orange	Warning	Flooding Expected	Flooding begins in Port Clinton at Madison and minor flooding of some roadways on the Lake the Cedar Point parking lot, docks in Sandusky flooded, Route 2 may close near Ottawa Natio Refuge.
NE 17 to 30	72 to 76 inches	Red	Warning	Significant Flooding	Significant flooding in Port Clinton at Madison flooding and possible closure of Bayview Ave a Lakeshore Dr on Lake Erie Islands, Route 163 Route 53 and 523 in Sandusky County, and Flomarinas and 1st St in Sandusky, considerable parking lot at Cedar Point and back yards of he Point Causeway.
NE 30 to 40 knots	77 to 85 inches	Purple		Major Flooding	Flooding worsens in all areas and may impact including Woodford and E. Point Rd on Kelley
Record Value	83.7 inches on January 19, 1987			-	
Peak in 2019	74.8 inches on July 7, 2019				
Peak in 2018	73 inches on April 15, 2018				





Lakeshore Flood Watch and Warning

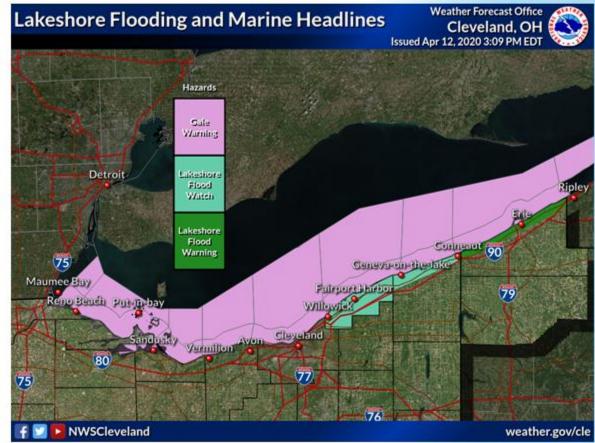
Lakeshore Flood Timing:

Noon Monday to Noon Tuesday

What to Expect:

- Strong southwest to west gales to 40 knots will create 8 to 15 foot waves on Lake Erie Monday.
- This, combined with already high lake levels, will cause flooding along the Erie County shoreline in Northwest Pennsylvania.
- Flooding is possible along the lakeshore of Lake and Ashtabula counties in Northeast Ohio, but is more conditional on the waves.









NATIONAL WEATHER SERVICE

WFO Buffalo Briefing

Lakeshore Flood Warning

✓ A Lakeshore Flood Warning is in effect for Chautaugua, Erie and Niagara counties from Monday afternoon through Tuesday morning

✓ A Lakeshore Flood Warning is in effect for Oswego and Jefferson counties from Monday evening through Tuesday evening



Start time for the Strongest Winds

- ✓ The strongest winds will start abruptly with a cold frontal passage
- ✓ Approximate start time for the strongest winds (55 mph or greater)



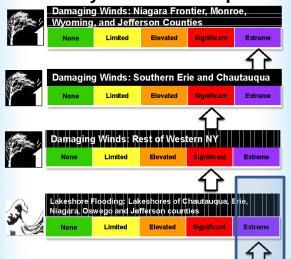




National Weather Service

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Summary of Greatest Impacts



Lakeshore Flood Warning Summary

Lake Erie

- ✓ Impacts: Lake levels are expected to exceed 10 ft at Buffalo. Flooding along Route 5 in Hamburg, Buffalo Harbor, Canalside, Dunkirk Harbor, and other flood prone locations. Flooding along the Upper Niagara River, Grand Island, and Cayuga Island
- ✓ Timing: Monday afternoon through early Tuesday morning

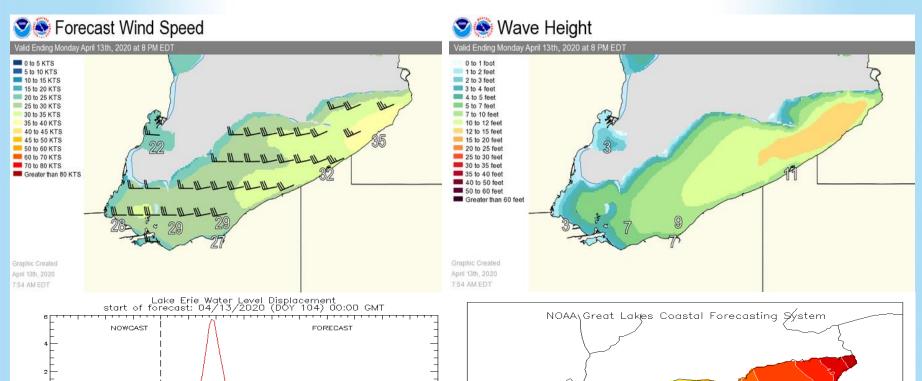
Lake Ontario

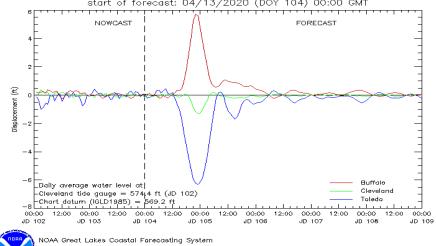
- ✓ Impacts: Along the Lake Ontario shore, flooding is likely in bays, inlets and damage may extend along the St. Lawrence River. Widespread shoreline erosion.
- ✓ Timing: Monday evening through Tuesday evening

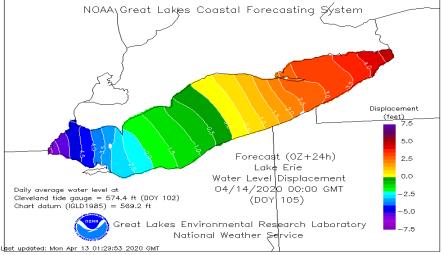


Weather Impacts on Water Levels

NOAA NWS NDFD Forecast/NOAA GLERL Great Lakes Coastal Forecasting System



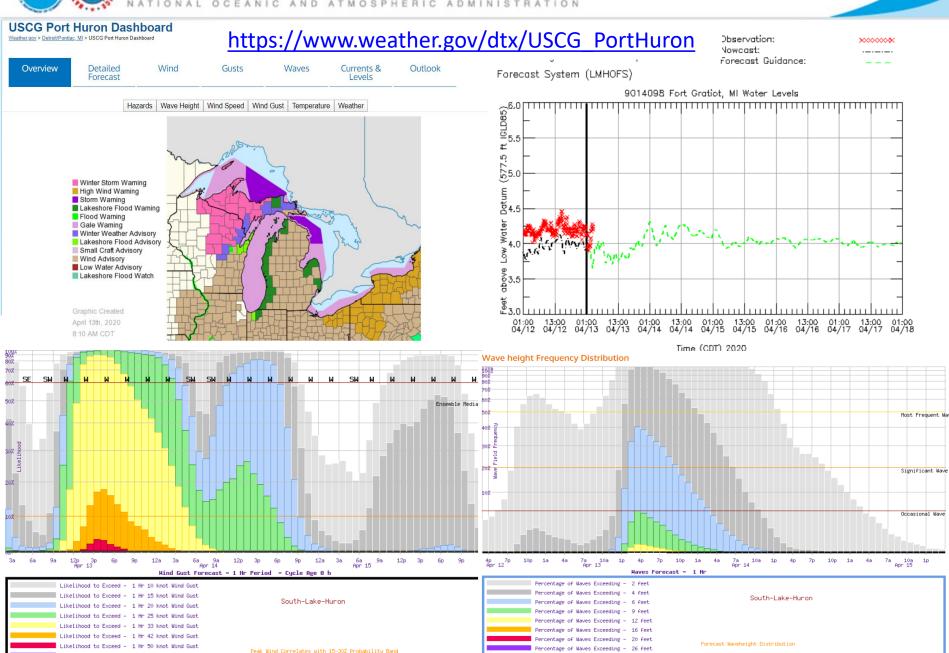






Likelihood to Exceed - 1 Hr 58 knot Wind Gust

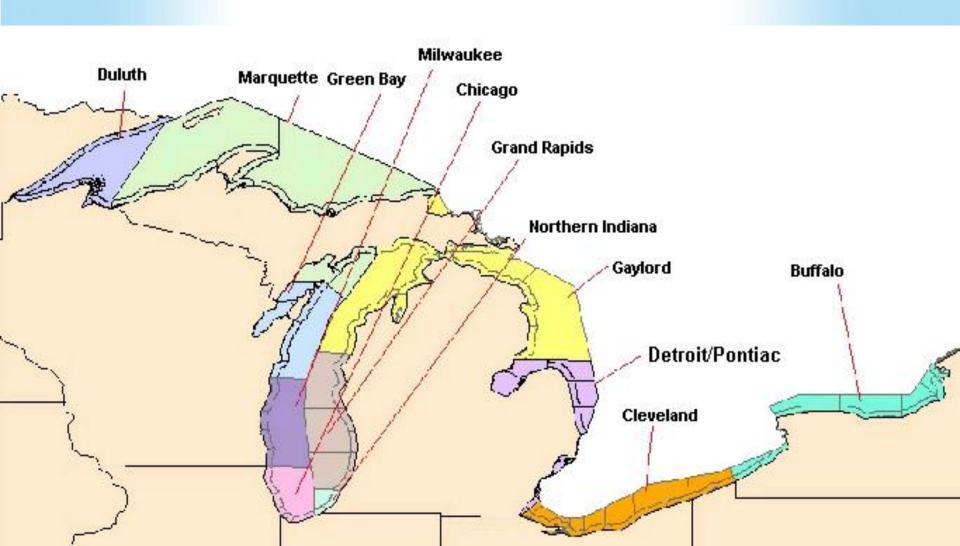
Likelihood to Exceed - 1 Hr 64 knot Wind Gust



Percentage of Waves Exceeding - 34 feet



Great Lakes Weather Forecast Offices

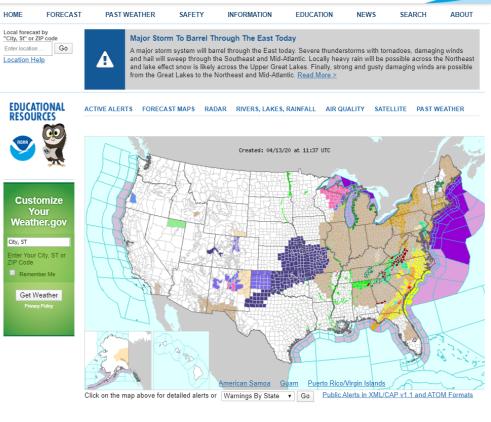




Great Lakes Weather

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Marine Specific





